CLAIMS

1. A method for accommodating electronic components on a multilayer signal routing device, the method comprising the steps of:

determining a component space that is required to accommodate a plurality of electronic components on a surface of a multilayer signal routing device; and

forming at least one signal routing channel on at least the surface of the multilayer signal routing device, the at least one signal routing channel having a channel space that is equal to or greater than the component space.

2. The method of claim 1, wherein the step of determining a component space comprises the steps of:

determining a number of the plurality of electronic components that are to be mounted on the surface of the multilayer signal routing device; and

determining a required space for each of the number of the plurality of electronic components that are to be mounted on the surface of the multilayer signal routing device.

3. The method of claim 1, wherein the step of forming at least one signal routing channel comprises the step of:

forming at least two relatively aligned electrically conductive micro-vias in the multilayer signal routing device coinciding with the location of the at least one signal routing channel formed on the secondary surface of the multilayer signal routing device.

4. The method of claim 1, wherein the surface of the multilayer signal routing device is a secondary surface of the multilayer signal routing device, wherein a plurality of electrically conductive pads are formed on a primary surface of the multilayer signal routing device opposite the secondary surface of the multilayer signal routing device.

5. The method of claim 4, wherein at least two relatively aligned electrically conductive micro-vias are formed in the multilayer signal routing device in electrical connection with at least two respective ones of the electrically conductive pads and coinciding with the location of the at least one signal routing channel formed on the secondary surface of the multilayer signal routing device.

6. The method of claim 5, further comprising the step of:

mounting at least a portion of the plurality of electronic

components on the secondary surface of the multilayer signal routing device within the at least one signal routing channel formed on the secondary surface of the multilayer signal routing device.

7. The method of claim 5, further comprising the step of:

forming an electrically conductive pad on the secondary surface of the multilayer signal routing device within the at least one signal routing channel formed on the secondary surface of the multilayer signal routing device.

8. The method of claim 7, further comprising the step of:

forming an electrically conductive trace on the secondary surface of the multilayer signal routing device electrically connected to the electrically conductive pad formed on the secondary surface of the multilayer signal routing device.

9. The method of claim 7, further comprising the step of:

mounting at least one of the plurality of electronic components on the secondary surface of the multilayer signal routing device in electrical connection with the electrically conductive pad formed on the secondary surface of the multilayer signal routing device and coinciding with the position of the at

least one signal routing channel formed on the secondary surface of the multilayer signal routing device.

10. The method of claim 1, wherein the at least one signal routing channel formed on the surface of the multilayer signal routing device has at least one of a vertical, horizontal, and diagonal orientation portion along the surface of the multilayer signal routing device.

11. A multilayer signal routing device comprising:

a primary surface having a plurality of electrically conductive pads formed thereon, a group of the plurality of electrically conductive pads in respective electrical connection with a group of electrically conductive micro-vias formed in the multilayer signal routing device; and

a secondary surface having a signal routing channel formed thereon coinciding with the location of the group of electrically conductive micro-vias, the signal routing channel having a channel area on the secondary surface for accommodating an electronic component mounted on the secondary surface.

12. The multilayer signal routing device of claim 11, wherein the secondary surface has an electrically conductive pad formed

thereon within the signal routing channel.

13. The multilayer signal routing device of claim 12, wherein the secondary surface has an electrically conductive trace formed thereon, the electrically conductive trace in electrical connection with the electrically conductive pad formed on the secondary surface.

14. The multilayer signal routing device of claim 12, wherein the electronic component is mounted on the secondary surface within the signal routing channel in electrical connection with the electrically conductive pad formed on the secondary surface.

15. The multilayer signal routing device of claim 11, wherein the signal routing channel has at least one of a vertical, horizontal, and diagonal orientation portion along the secondary surface of the multilayer signal routing device.